

## AMENDMENTS TO THE CLAIMS

Please amend Claims 1-4, 53-54, 56-58, 60 and 62, cancel Claims 9-14, 17-22, 33-38, 41-46, 50-52, 55, 61, 63-66, and add new Claims 67-99, all as shown below. Applicant reserves the right to prosecute any originally presented or withdrawn claims in a future or continuing application

1. (Currently Amended) A method of ~~[[operating on]]~~ managing a virtual content repository (VCR) that represents a plurality of content repositories ~~having different types of content~~, the method comprising:

creating a content node for each of the plurality of content repositories and associating each content node with its own content schema, wherein each of the plurality of content repositories is unique;

creating a hierarchy of hierarchy nodes in the VCR, and for each hierarchy node comprising the substeps of:

indicating a location of ~~[[each]]~~ the hierarchy node in the hierarchy by an identifier;

relating ~~[[each]]~~ the hierarchy node to a different type of content; ~~[[and]]~~

associating the hierarchy node with one or more content nodes; and

associating ~~[[each]]~~ the hierarchy node with ~~[[a first]]~~ its own hierarchy schema;

~~creating a content node for each of the plurality of content repositories;~~

~~associating each hierarchy node with ~~[[at least one]]~~ one or more content nodes;~~

~~associating each content node with ~~[[a second]]~~ with its own content schema;~~

storing the hierarchy and content nodes in the VCR, resulting in storing each schema in one of the plurality of content repositories; and

presenting the plurality of content repositories associated with the VCR as a single content repository to an application program interface;

~~wherein storing the hierarchy and content nodes in the VCR results in storing each schema in one of the plurality of content repositories.~~

2. (Currently Amended) The method of claim 1 wherein:

the ~~[[first]]~~ hierarchy and ~~[[second]]~~ content schemas comprise one or more properties, wherein each property is an association between a name and at least one value.

3. (Currently Amended) The method of claim 2 wherein:

the at least one value ~~[[can be]]~~ comprises one of a text string, a number, an image, an audio/visual presentation, ~~[[or]]~~ and binary data.

4. (Currently Amended) The method of claim 1 ~~[[further comprising]]~~ wherein:  
the application program interface comprises integrating each one of the plurality of content repositories into the VCR by use of one or more of a VCR browser, a content node editor, a schema editor and a property editor.
5. (Previously Presented) The method of claim 2 wherein:  
each property comprises at least one property definition.
6. (Previously Presented) The method of claim 5 wherein:  
the at least one property definition can specify at least one of:  
property choices;  
a reference;  
a data type;  
whether each property is mandatory;  
whether each property is multi-valued;  
whether each property is primary;  
whether each property is read-only; and  
whether each property is restricted.
- 7-48. (Canceled).
49. (Previously Presented) The method of claim 1 wherein:  
the identifier is a path.
- 50-52. (Canceled).
53. (Currently Amended) A method of ~~[[operating on]]~~ managing a virtual content repository (VCR) that represents a plurality of content repositories ~~having different types of content~~, the method comprising:  
creating a content node for each of the plurality of content repositories, wherein each of the plurality of content repositories is unique;  
creating a hierarchy of hierarchy nodes in the VCR comprising the substeps of:  
indicating a location of each hierarchy node in the hierarchy by an identifier; and

relating each hierarchy node to a different type of content;  
~~creating content nodes for each of the plurality of content repositories;~~  
associating each hierarchy node with at least one content node; ~~[[and]]~~  
storing the hierarchy and content nodes in the VCR, resulting in storing each schema in one of the plurality of content repositories; and  
presenting the plurality of content repositories associated with the VCR as a single content repository to an application program interface.

54. (Currently Amended) The method of claim 53 further comprising:  
associating each hierarchy node with ~~[[a first]]~~ its own hierarchy schema; and  
associating each content node with its own content schema.
55. (Canceled).
56. (Currently Amended) The method of claim ~~[[55]]~~ 54 wherein:  
the ~~[[second]]~~ hierarchy and content schemas comprise~~[[s]]~~ one or more properties, wherein each property is an association between a name and at least one value.
57. (Currently Amended) The method of claim 56 wherein:  
the at least one value ~~[[can be]]~~ comprises one of a text string, a number, an image, an audio/visual presentation, ~~[[or]]~~ and binary data.
58. (Currently Amended) The method of claim 53 ~~[[further comprising]]~~ wherein:  
the application program interface comprises ~~integrating each one of the plurality of content repositories into the VCR by use of~~ one or more of a VCR browser, a content node editor, a schema editor and a property editor.
59. (Previously Presented) The method of claim 56 wherein:  
each property comprises at least one property definition.
60. (Currently Amended) The method of claim 59 wherein:  
~~[[a]]~~ the at least one property definition can specify at least one of:  
property choices;  
a reference;

a data type;  
whether each property is mandatory;  
whether each property is multi-valued;  
whether each property is primary;  
whether each property is read-only; and  
whether each property is restricted.

61. (Canceled).

62. (Currently Amended) The method of claim 53 further comprising: ~~A method of operating on a virtual content repository (VCR) that represents a plurality of content repositories having different types of content, the method comprising:~~

~~[[selecting]] searching for one of a node from a hierarchy of both hierarchy node[[s]] and a content node[[s]] returning a selected node in the VCR, wherein a location of the node in the hierarchy of nodes is indicated by an identifier and each content node is associated with one of the plurality of content repositories; and~~

~~performing an operation on the selected node, [[wherein]] the operation [[is]] comprising one of: deleting the selected node; changing the location of the selected node in the VCR; reading the selected node; and updating the selected node.~~

63-66. (Canceled).

67. (New) A system of managing a virtual content repository (VCR) that represents a plurality of content repositories, the system comprising:

a plurality of content repositories, wherein each of the plurality of content repositories is unique;  
a content node created for each of the plurality of content repositories, each content node comprising a content schema associated with the content node;

a hierarchy of hierarchy nodes created in the VCR, each hierarchy node comprising:

an identifier that indicates a location of the hierarchy node in the hierarchy;  
a different content type to which the hierarchy node is related;  
an association with one or more content nodes; and  
a hierarchy schema associated with the hierarchy node;

an application program interface to which the plurality of content repositories associated with the content nodes of the VCR is presented as a single content repository; and

wherein each of the hierarchy and content nodes are stored in the VCR that results in storage of each schema in one of the plurality of content repositories.

68. (New) The system of claim 67 wherein:

the hierarchy and content schemas comprise one or more properties, wherein each property is an association between a name and at least one value.

69. (New) The system of claim 68 wherein:

the at least one value comprises one of a text string, a number, an image, an audio/visual presentation, and binary data.

70. (New) The system of claim 67 wherein:

the application program interface comprises one or more of a VCR browser, a content node editor, a schema editor and a property editor.

71. (New) The system of claim 68 wherein:

each property comprises at least one property definition.

72. (New) The system of claim 71 wherein:

the at least one property definition can specify at least one of:

property choices;

a reference;

a data type;

whether each property is mandatory;

whether each property is multi-valued;

whether each property is primary;

whether each property is read-only; and

whether each property is restricted.

73. (New) The system of claim 67 wherein:

the identifier is a path.

74. (New) The system of claim 67 further comprising:

a search for one of a hierarchy node and a content node that returns a selected node; and

an operation performed on the selected node, the operation comprising one of: a deletion of the selected node; a change of the selected node location in the VCR; a reading of the schema associated with the selected node; and an update of the schema associated with the selected node.

75. (New) A computer readable medium for managing on a virtual content repository (VCR) that represents a plurality of content repositories, the computer readable medium having instructions stored thereon that when executed by one or more processors on the computer cause the computer to:

- create a content node for each of the plurality of content repositories and associate each content node with its own content schema, wherein each of the plurality of content repositories is unique;

- create a hierarchy of hierarchy nodes in the VCR, and for each hierarchy node:

- indicate a location of the hierarchy node in the hierarchy by an identifier;

- relate the hierarchy node to a different type of content;

- associate the hierarchy node with one or more content nodes; and

- associate the hierarchy node with its own hierarchy schema;

- store the hierarchy and content nodes in the VCR, resulting in storing each schema in one of the plurality of content repositories; and

- present the plurality of content repositories associated with the VCR as a single content repository to an application program interface.

76. (New) The computer readable medium of claim 75 wherein:

- the hierarchy and content schemas comprise one or more properties, wherein each property is an association between a name and at least one value.

77. (New) The computer readable medium of claim 76 wherein:

- the at least one value comprises one of a text string, a number, an image, an audio/visual presentation, and binary data.

78. (New) The computer readable medium of claim 75 wherein:

- the application program interface comprises one or more of a VCR browser, a content node editor, a schema editor and a property editor.

79. (New) The computer readable medium of claim 76 wherein:

- each property comprises at least one property definition.



80. (New) The computer readable medium of claim 79 wherein:  
the at least one property definition can specify at least one of:  
property choices;  
a reference;  
a data type;  
whether each property is mandatory;  
whether each property is multi-valued;  
whether each property is primary;  
whether each property is read-only; and  
whether each property is restricted.
81. (New) The computer readable medium of claim 75 wherein:  
the identifier is a path.
82. (New) The computer readable medium of claim 75 further comprising:  
search for one of a hierarchy node and a content node that returns a selected node; and  
perform an operation on the selected node, the operation comprising one of: delete the selected node; change the location of the selected node in the VCR; read the schema associated with the selected node; and update the schema associated with the selected node.
83. (New) The method of claim 1 further comprising:  
searching for one of a hierarchy node and a content node returning a selected node; and  
performing an operation on the selected node, the operation comprising one of: deleting the selected node; changing the location of the selected node in the VCR; reading the schema associated with the selected node; and updating the schema associated with the selected node.
84. (New) A system of managing a virtual content repository (VCR) that represents a plurality of content repositories, the method comprising:  
a plurality of content repositories, wherein each of the plurality of content repositories is unique;  
a content node created for each of the plurality of content repositories;  
a hierarchy of hierarchy nodes created in the VCR, each hierarchy node comprising:  
an identifier that indicates a location of each hierarchy node in the hierarchy; and  
a different content type to which each hierarchy node is related;

storage of the hierarchy and content nodes in the VCR, resulting in storing each schema in one of the plurality of content repositories; and

an application program interface that presents the plurality of content repositories associated with the VCR as a single content repository.

85. (New) The system of claim 84 further comprising:

an association of each hierarchy node with its own hierarchy schema; and  
an association of each content node with its own content schema.

86. (New) The system of claim 85 wherein:

the hierarchy and content schemas comprise one or more properties, wherein each property is an association between a name and at least one value.

87. (New) The system of claim 86 wherein:

the at least one value comprises one of a text string, a number, an image, an audio/visual presentation, and binary data.

88. (New) The system of claim 84 wherein:

the application program interface comprises integrating one or more of a VCR browser, a content node editor, a schema editor and a property editor.

89. (New) The system of claim 86 wherein:

each property comprises at least one property definition.

90. (New) The system of claim 89 wherein:

the at least one property definition can specify at least one of:

property choices;

a reference;

a data type;

whether each property is mandatory;

whether each property is multi-valued;

whether each property is primary;

whether each property is read-only; and

whether each property is restricted.



91. (New) The system of claim 84 further comprising:  
a search for one of a hierarchy node and a content node that returns a selected node; and  
an operation performed on the selected node, the operation comprising one of: a deletion of the selected node; a change of the selected node location in the VCR; a reading of the selected node; and an update of the selected node.
92. (New) A computer readable medium for managing a virtual content repository (VCR) that represents a plurality of content repositories, the computer readable medium having instructions stored thereon that when executed by one or more processors on the computer cause the computer to:  
create a content node for each of the plurality of content repositories, wherein each of the plurality of content repositories is unique;  
create a hierarchy of hierarchy nodes in the VCR comprising the substeps of:  
indicate a location of each hierarchy node in the hierarchy by an identifier; and  
relate each hierarchy node to a different type of content;  
associate each hierarchy node with at least one content node;  
store the hierarchy and content nodes in the VCR, resulting in storing each schema in one of the plurality of content repositories; and  
present the plurality of content repositories associated with the VCR as a single content repository to an application program interface.
93. (New) The computer readable medium of claim 92 further comprising:  
associate each hierarchy node with its own hierarchy schema; and  
associate each content node with its own content schema.
94. (New) The computer readable medium of claim 93 wherein:  
the hierarchy and content schemas comprise one or more properties, wherein each property is an association between a name and at least one value.
95. (New) The computer readable medium of claim 94 wherein:  
the at least one value comprises one of a text string, a number, an image, an audio/visual presentation, and binary data.
96. (New) The computer readable medium of claim 92 wherein:

the application program interface comprises integrating one or more of a VCR browser, a content node editor, a schema editor and a property editor.

97. (New) The computer readable medium of claim 94 wherein:  
each property comprises at least one property definition.

98. (New) The computer readable medium of claim 97 wherein:  
the at least one property definition can specify at least one of:  
property choices;  
a reference;  
a data type;  
whether each property is mandatory;  
whether each property is multi-valued;  
whether each property is primary;  
whether each property is read-only; and  
whether each property is restricted.

99. (New) The computer readable medium of claim 92 further comprising:  
search for one of a hierarchy node and a content node that returns a selected node; and  
perform an operation on the selected node, the operation comprising one of: delete the selected node; change the location of the selected node in the VCR; read the selected node; and update the selected node.